

6. Claim 11 has been amended to delete a portion of the claim to improve the readability of the claimed invention. Finally, the dependency of claim 12 has been corrected. It is respectfully submitted that the presented claims overcome the Examiner's objections to the claim language.

The Examiner has rejected claims 1 and 2 as being unpatentable over Kubala U.S. Patent 5,617,879 in view of Watts U.S. Patent 4,201,392. Specifically, the Examiner contends that Kubala discloses a seal member 89 positioned in an annular groove 33 which cooperates with a back-up ring (90) "to provide an unfilled volume defined by said chamfered portion...." It is specifically requested that the Examiner reconsider his rejection because Kubala's structure does not remotely relate to the disclosed and claimed structure of the secondary seal assembly of claim 1. In Kubala, the seal member 89 is sized to be smaller than the annular groove (col. 2, ll. 39-40) and is specifically designed to "sealingly engage" the tubular carrier member (col. 8, ll. 1-5). Thus, seal member 89 is moved along with the carrier member as the carrier member movement overcomes the force of the compression spring 86, which is designed to provide separation of the primary seals of the floating seal assembly 32. Thus, in Kubala, seal member 89 cooperates with the back-up ring 90 to only stop leakage through the secondary seal and does not have any influence on the separation of the seal assembly 12. Watts U.S. Patent 4,201,392 discloses a resilient seal ring, having a spacer ring which is in contact with a back-up ring to prevent leakage through high pressures across the seal in one direction and to permit leakage when high pressures are exerted in the opposite direction. Simply, Watts does not relate to the application of a secondary seal assembly in a coolant union wherein the secondary seal assembly creates a separation of the floating seal when in the

unpressurized position, as is required by claim 1.

In claim 1, the secondary seal assembly discloses a U-shaped seal member which is spaced from the back-up ring to provide an unfilled volume which causes the primary seal assembly to be separated when the coolant union is in the unpressurized position. In contradistinction, in Kubala, spring 86 causes the separation of the floating seals. Thus, there is simply no teaching or suggestion by Kubala or Watts that the secondary seal assembly can store sufficient relative displacement energy (page 8, lines 15-18) to provide separation of the seal face when the coolant union is in the depressurized position. Thus, it is respectfully submitted claims 1 and 2 are in condition for allowance over the references of record.

Claims 6-7 and 10 have been rejected by the Examiner as being obvious over Walker U.S. Patent 3,405,959 in view of Deublin U.S. Patent 2,723,136. Walker discloses a stainless steel ring 9, having a sealing face 15, mounted to a thrust member 12. Walker's stainless steel ring 9 is engaged by thrust member 12, with a sealing ring 8 positioned therebetween. Also, the Examiner contends that Deublin Patent '136 teaches a seal member that is chamfered. However, neither reference remotely teaches or suggests that the first and second seal members are carbonized and that the width of one of the sealing surfaces is less than the width of the other sealing surface to provide a narrowed contact area therebetween to reduce the operating temperature of the coolant union. This structure permits the claimed union to operate in the dry running condition (Specification, page 7, ll. 18-19). Thus, it is respectfully submitted that claim 6 is in condition for allowance over these references. Because claims 7 and 10 are dependent from claim 6, these claims

are also allowable over these references.

Claims 6-7 and 10 have also been rejected as unpatentable over Pearson U.S. Patent 5,577,775 in view of Deublin 2,723,136. Properly, the Examiner has concluded that Pearson fails to teach that one of the sealing surfaces is chamfered such that the width of one of the sealing faces is less than that of the other sealing face. Also, both references clearly teach that the sealing faces are held in permanent contact to one another by design 15 ('775 Patent) or by spring 72 ('136 Patent). Thus, there is no teaching whatsoever of a floating seal assembly, as recited and claimed in claim 6. Thus, it is submitted that claim 6 is clearly allowable over Pearson and Deublin.

With respect to claims 7 and 10, because these claims are dependent from claim 6, it is submitted that they are in condition for allowance over all the references of record.

Claim 11 has been rejected as unpatentable over Pearson in view of Deubler as applied to claim 6 and further in view of Watts. Again, for each of the reasons set forth with respect to claims 1 and 6, it is submitted that not one single prior art reference disclose the inventive feature wherein the movement of the U-shaped seal member towards the back-up ring provides an unfilled volume to create separation of the rotating and non-rotating seal members when the seal members are in the unpressurized position. Accordingly, claims 11 and 12 are in condition for allowance.

Applicant has presented claim 13 to more adequately cover the invention of the present disclosure that was previously presented in dependent claim 8. Thus, claim 13 recites that at least one of sealing surfaces presented by the floating seal assembly is comprised of a porous material which contains a lubricating medium to provide self-lubrication of the seal faces. Simply, not one

single reference remotely suggests or renders obvious the invention of claim 13. Thus claim 13 and the dependent claims 14-19 are in condition for allowance.

Applicant acknowledges the Examiner's indication of allowability of claims 4-5 and 9. Applicant will present these claims in independent form if applicant is unable to overcome the Examiner's objection to claims 1 and 6.

It is respectfully submitted that claims 1-2, 4-7 and 9-19 are in condition for allowance.

January 23, 2006

Respectfully submitted,

Paul L. Brown  
Reg. No. 27,184



Emrich & Dithmar, LLC.  
125 South North Wacker Drive  
Suite 2080  
Chicago, Illinois 60606  
Phone: (312) 663-9800